



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,192	05/02/2001	Hiroaki Fukuda	RCOH-1032	5093

21302 7590 11/29/2004

KNOBLE, YOSHIDA & DUNLEAVY  
EIGHT PENN CENTER  
SUITE 1350, 1628 JOHN F KENNEDY BLVD  
PHILADELPHIA, PA 19103

EXAMINER

THOMPSON, JAMES A

ART UNIT PAPER NUMBER

2624

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/847,192

Applicant(s)

FUKUDA ET AL.

Examiner

James A Thompson

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2001 and 25 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9-14, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 5-8 and 15-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 October 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Drawings*

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "17" and "18" in figure 1, "37" in figure 2, and "51" in figure 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

3. The disclosure is objected to because of the following informalities:

On page 8, line 4, "the process control unit 8 along with ROM 15 and RAM 16" should be changed to "the process control

unit 8 along with ROM 17 and RAM 18" in order to agree with the figure 1.

On page 8, line 30, "the parallel data I/F unit 39" should be changed to "the parallel data I/F unit 37" in order to agree with figure 2.

Applicant is further advised to inspect the specification for any spelling and grammatical errors and to ensure that each figure reference is correct and complete.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knox (US Patent 5,832,137) in view of Clouthier (US Patent 5,949,964) and Matsuda (US Patent 6,285,470 B1).

**Regarding claim 1:** Knox discloses scanning a front side image and a back side image from a double-sided document (column 3, lines 33-34 and column 4, lines 44-49 of Knox), the front side image having portions, some of the portions including an original front image (figure 5A(side A) of Knox) and a see-through back image from the back side image (figure 5A(side B) and column 5, lines 56-59 of Knox); storing the front side image

Art Unit: 2624

and the back side image (column 7, lines 13-19 of Knox); and determining an edge amount (contrast level) for each of the portions in the front side image (column 6, lines 15-21 of Knox). A low contrast level is due to a low edge amount and a high contrast level is due to a high edge amount, thus showing if an edge is on the front or the back side of the document image (column 6, lines 38-42 of Knox).

Knox further discloses initially separating the see-through back image from the original front image based upon the edge amount to generate a first process result (column 6, lines 33-40 of Knox); and correcting an intensity level of the character portions, the dot pattern portions, and the background portions (column 6, lines 59-67 of Knox) using a corresponding predetermined conversion function (column 6, equations (1)-(4) and lines 57-59 of Knox) so as to substantially eliminate the see-through back image (column 7, lines 8-10 of Knox).

Knox does not disclose expressly smoothing the portions having a certain amount of the edge amount in the first process result to generate a smoothed result; and further separating character portions and dot pattern portions from background in the smoothed result to leave background portions.

Clouthier discloses smoothing the portions of an image having a certain amount of an edge amount in a first process result (column 3, lines 43-45 of Clouthier) to generate a smoothed result (column 6, lines 6-7 and lines 33-37 of Clouthier). By determining whether an incoming data segment is text, graphics or raster image data (column 3, lines 43-45 of Clouthier), a certain amount of an edge amount is determined since text data is a type of edge data and graphics and raster image data is more smooth than text data.

Art Unit: 2624

Knox and Clouthier are combinable because they are from the same field of endeavor, namely halftoning and image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to smooth the edges of the image data, as taught by Clouthier, based on the edge amount determined by the determining step taught by Knox. The motivation for doing so would have been to eliminate the visually unappealing border between text and graphics in an image (column 1, lines 55-58 of Clouthier). Therefore, it would have been obvious to combine Clouthier with Knox.

Knox in view of Clouthier does not disclose expressly further separating character portions and dot pattern portions from background in the smoothed result to leave background portions.

Matsuda discloses separating character portions and dot pattern portions (figure 3C("character part") of Matsuda) from background (figure 3C("base area") of Matsuda) to leave background portions (column 5, lines 21-33 and column 8, lines 43-51 of Matsuda). A histogram (figure 3C of Matsuda) is used to distinguish between the background (base area), the show-through part, and the readable image (character) part (column 5, lines 21-33 of Matsuda). The background is then set and the readable image data (i.e. without show-through) is converted to be separate from said background (column 8, lines 43-51 of Matsuda).

Knox in view of Clouthier is combinable with Matsuda because they are from the same field of endeavor, namely image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to separate the background from the rest of the image after show-

Art Unit: 2624

through image data has been removed, as taught by Matsuda. The image data that has had the show-through image removed would also be smoothed, owing to the order of the processing steps. The motivation for doing so would have been to enhance the image that is to be read by adjusting it to be darker than the base image and, further, to use the entire available intensity gamut (column 8, lines 47-51 of Matsuda). Therefore, it would have been obvious to combine Matsuda with Knox in view of Clouthier to obtain the invention as specified in claim 1.

**Further regarding claim 2:** Matsuda discloses further separating the character portions and dot pattern portions from the background portion based upon the binarization of the resultant image (column 8, lines 47-54 of Matsuda). Converting the image data to be read based on a gamma curve (column 8, lines 47-51 of Matsuda) would inherently involve binarizing since the data must be in digital form in order to be displayed by the device. By reproducing the image sharply (column 8, lines 52-54 of Matsuda), the character portions and dot pattern portions of the image will be further separated from the background portion since they will be much more noticeable. Further, as discussed above, the resultant image would be the smoothed result.

**Regarding claim 3:** Knox in view of Clouthier does not disclose expressly that said further separating and correcting steps are performed only when the front side image has an intensity level below a predetermined threshold value.

Matsuda discloses further separating character portions and dot pattern portions from background and correcting the intensity level only when the front side image has an intensity level below a predetermined threshold value (column 8, lines 43-

Art Unit: 2624

51 of Matsuda). If the intensity level of the front image is less than the maximum density level, then said intensity level is increased based on a gamma curve (column 8, lines 43-51 of Matsuda). If the intensity level of the front side image is at the maximum density level, then there is no further separation and correction performed on said intensity level since the resultant image is therefore unchanged by said gamma curve.

Knox in view of Clouthier is combinable with Matsuda because they are from the same field of endeavor, namely image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to perform further separation and intensity level correction according to the teachings of Matsuda. The motivation for doing so would have been to reproduce the image more sharply (column 8, lines 52-54 of Matsuda). Therefore, it would have been obvious to combine Matsuda with Knox in view of Clouthier to obtain the invention as specified in claim 3.

**Regarding claim 4:** Knox discloses that the predetermined conversion function (column 6, equations (3)-(4) of Knox) has a set of predetermined parameters  $(f, \frac{1}{1-f})$  for each pixel (column 6, equations (3)-(4) and lines 57-59 of Knox). The parameter  $f$ , which can be set by the user (column 7, lines 46-48 of Knox), is used in multiplying the value of  $Q(-x)$  for obtaining  $A(x)$  (column 6, equation 3 of Knox) and in multiplying the value of  $P(-x)$  for obtaining  $B(x)$  (column 6, equation 4 of Knox). The value of  $\frac{1}{1-f}$  is used as a multiplicative parameter for obtaining both  $A(x)$  and  $B(x)$  (column 6, equations (3)-(4) of

Art Unit: 2624

Knox). Since these two parameters  $(f, \frac{1}{1-f})$  are used to obtain the true images (column 6, lines 65-67 of Knox), then said parameters are used to convert each pixel.

**Regarding claim 10:** Knox discloses that said further separating and said correcting occurs in response to an image quality level of the front side image (column 7, lines 50-54 of Knox). If the imaging parameters are not good enough, an updated (trial-and-error) value of "f" can be entered (column 7, lines 50-54 of Knox).

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Knox (US Patent 5,832,137) in view of Clouthier (US Patent 5,949,964), and Matsuda (US Patent 6,285,470 B1), and Carey (US Patent 5,977,978).

**Regarding claim 9:** Knox in view of Clouthier and Matsuda does not disclose expressly that said further separating and said correcting steps are performed at a set of predetermined levels based upon a user input.

Carey discloses correcting an intensity level in response to a selected one value from a set of predetermined levels based on user input (figure 11 and column 9, lines 19-25 of Carey). A slider (figure 11(119) of Carey) is used to determine the intensity level of a particular color based on user input (column 9, lines 19-25 of Carey). As is well-known in the art, a digital representation of intensity values necessarily requires a finite set of predetermined levels. For example, if there are 8 bits representing the intensity values for each color, then there are 256 predetermined levels from which an intensity value can be selected.

Art Unit: 2624

Knox in view of Clouthier and Matsuda is combinable with Carey because they are from the same field of endeavor, namely digital image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to correct a particular level from a set of predetermined levels based on the desire of a user, as taught by Carey. Adjusting a particular level would result in a change in how the character portions and the dot pattern portions are further separated from the background, since a change in a particular level adjusts the relationship of the image values to the background value (column 8, lines 48-51 of Matsuda). The motivation for doing so would have been that the user might wish to change the color of a particular object in an image (column 9, lines 19-21 of Carey). Therefore, it would have been obvious to combine Carey with Knox in view of Clouthier and Matsuda to obtain the invention as specified in claim 9.

7. Claims 11-14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knox (US Patent 5,832,137) in view of *In re Larson* (340 F.2d 965, 968. 144 USPQ 347, 349 (CCPA 1965)), Clouthier (US Patent 5,949,964), and Matsuda (US Patent 6,285,470 B1).

**Regarding claim 11:** Knox discloses a system (figure 4 and column 2, lines 54-57 of Knox) comprising a scanner (figure 1(10) of Knox) for scanning a front side image and a back side image from a double-sided document (column 3, lines 33-34 and column 4, lines 44-49 of Knox), the front side image having portions, some of the portions including an original front image (figure 5A(side A) of Knox) and a see-through back image from the back side image (figure 5A(side B) and column 5, lines 56-59

Art Unit: 2624

of Knox); a memory unit (figure 6A(300,302) of Knox) connected to said scanner for storing the front side image and the back side image (column 7, lines 13-19 of Knox); and an edge amount determination unit (figure 4(200(portion)) of Knox) connected to said memory unit for determining an edge amount (contrast level) for each of the portions in the front side image (column 6, lines 15-21 of Knox). A low contrast level is due to a low edge amount and a high contrast level is due to a high edge amount, thus showing if an edge is on the front or the back side of the document image (column 6, lines 38-42 of Knox).

Knox further discloses a determination unit (figure 4(200(portion)) of Knox) connected to said edge amount determination unit for initially separating the see-through back image from the original front image based upon the edge amount to generate a first process result (column 6, lines 33-40 of Knox); and a correction unit (figure 4(200(portion)) of Knox) connected to said determination unit for correcting an intensity level of the character portions, the dot pattern portions, and the background portions (column 6, lines 59-67 of Knox) using a corresponding predetermined conversion function (column 6, equations (1)-(4) and lines 57-59 of Knox) so as to substantially eliminate the see-through back image (column 7, lines 8-10 of Knox). The computer workstation (figure 4(200) of Knox) is used to perform the processing steps that correct the scanned image data (column 5, lines 42-45 and lines 49-50 of Knox). The edge amount determining unit, determination unit, and correction unit are the portions of the CPU of said workstation, along with the associated memory and embodied software, that performs the corresponding processes.

Art Unit: 2624

While Knox discloses said memory unit as being composed of two separate buffers (figure 6A(300,302) of Knox), Knox does not disclose expressly that the memory unit is a single unit. However, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the two memory buffers taught by Knox into a single memory unit since *In re Larson* has held that making part integral is an obvious engineering design choice if there is no unexpected, novel, and useful result. The suggestion for combining the two buffers into one buffer is that computer RAM is generally utilized as a single piece of circuitry and is addressable as a monolithic memory element of the computer.

Knox in view of *In re Larson* does not disclose expressly a smoothing unit connected to said edge amount determination unit and said memory unit for smoothing the portions having a certain amount of the edge amount in the first process result to generate a smoothed result; and that said determination unit is also attached to said smoothing unit and separates character portions and dot pattern portions from background in the smoothed result to leave background portions.

Clouthier discloses a smoothing unit (figure 1(26) of Clouthier) for smoothing the portions of an image having a certain amount of an edge amount in a first process result (column 3, lines 43-45 of Clouthier) to generate a smoothed result (column 6, lines 6-7 and lines 33-37 of Clouthier). By determining whether an incoming data segment is text, graphics or raster image data (column 3, lines 43-45 of Clouthier), a certain amount of an edge amount is determined since text data is a type of edge data and graphics and raster image data is more smooth than text data.

Art Unit: 2624

Knox in view of *In re Larson* is combinable with Clouthier because they are from the same field of endeavor, namely halftoning and image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the smoothing unit of Clouthier to smooth the edges of the image data based on the edge amount determined by the edge amount determining unit taught by Knox. The smoothing unit would therefore have to be connected to said edge amount determining unit, in order to operate based on the data from said edge amount determining unit, and to said memory unit in order to obtain the image data to smooth. Since the smoothed image data would be needed for the separation of the front and back images, and since smoothing is a process that occurs immediately after edge amount determination, said determination unit would be connected to said smoothing unit as well. The motivation for doing so would have been to eliminate the visually unappealing border between text and graphics in an image (column 1, lines 55-58 of Clouthier). Therefore, it would have been obvious to combine Clouthier with Knox.

Knox in view of *In re Larson* and Clouthier does not disclose expressly that said determination unit separates character portions and dot pattern portions from background in the smoothed result to leave background portions.

Matsuda discloses separating character portions and dot pattern portions (figure 3C("character part") of Matsuda) from background (figure 3C("base area") of Matsuda) to leave background portions (column 5, lines 21-33 and column 8, lines 43-51 of Matsuda). A histogram (figure 3C of Matsuda) is used to distinguish between the background (base area), the show-through part, and the readable image (character) part (column 5,

Art Unit: 2624

lines 21-33 of Matsuda). The background is then set and the readable image data (i.e. without show-through) is converted to be separate from said background (column 8, lines 43-51 of Matsuda).

Knox in view of *In re Larson* and Clouthier is combinable with Matsuda because they are from the same field of endeavor, namely image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to separate the background from the rest of the image after show-through image data has been removed, as taught by Matsuda, with the determination unit taught by Knox. The image data that has had the show-through image removed would also be smoothed, owing to the order of the processing steps. The motivation for doing so would have been to enhance the image that is to be read by adjusting it to be darker than the base image and, further, to use the entire available intensity gamut (column 8, lines 47-51 of Matsuda). Therefore, it would have been obvious to combine Matsuda with Knox in view of *In re Larson* and Clouthier to obtain the invention as specified in claim 11.

**Further regarding claim 12:** Matsuda discloses further separating the character portions and dot pattern portions from the background portion based upon the binarization of the resultant image (column 8, lines 47-54 of Matsuda). Converting the image data to be read based on a gamma curve (column 8, lines 47-51 of Matsuda) would inherently involve binarizing since the data must be in digital form in order to be displayed by the device. By reproducing the image sharply (column 8, lines 52-54 of Matsuda), the character portions and dot pattern portions of the image will be further separated from the background portion since they will be much more noticeable.

Further, as discussed above, the resultant image would be the smoothed result and the separating would be performed with the determination unit taught by Knox.

**Regarding claim 13:** As discussed in the arguments regarding claim 12, which are incorporated herein, said determination unit further separates the character portions and the dot pattern portions from the background.

Knox in view of *In re Larson* and Clouthier does not disclose expressly that said determination unit further separates the character portions and the dot pattern portions from the background and said correction unit corrects the intensity level only when the front side image has an intensity level below a predetermined threshold value.

Matsuda discloses further separating character portions and dot pattern portions from background and correcting the intensity level only when the front side image has an intensity level below a predetermined threshold value (column 8, lines 43-51 of Matsuda). If the intensity level of the front image is less than the maximum density level, then said intensity level is increased based on a gamma curve (column 8, lines 43-51 of Matsuda). If the intensity level of the front side image is at the maximum density level, then there is no further separation and correction performed on said intensity level since the resultant image is therefore unchanged by said gamma curve.

Knox in view of *In re Larson* and Clouthier is combinable with Matsuda because they are from the same field of endeavor, namely image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to perform further separations and intensity level correction according to the teachings of Matsuda. The motivation for doing

Art Unit: 2624

so would have been to reproduce the image more sharply (column 8, lines 52-54 of Matsuda). Therefore, it would have been obvious to combine Matsuda with Knox in view of *In re Larson* and Clouthier to obtain the invention as specified in claim 13.

**Regarding claim 14:** Knox discloses that the predetermined conversion function (column 6, equations (3)-(4) of Knox) has a set of predetermined parameters  $(f, \frac{1}{1-f})$  for each pixel (column 6, equations (3)-(4) and lines 57-59 of Knox). The parameter  $f$ , which can be set by the user (column 7, lines 46-48 of Knox), is used in multiplying the value of  $Q(-x)$  for obtaining  $A(x)$  (column 6, equation 3 of Knox) and in multiplying the value of  $P(-x)$  for obtaining  $B(x)$  (column 6, equation 4 of Knox). The value of  $\frac{1}{1-f}$  is used as a multiplicative parameter for obtaining both  $A(x)$  and  $B(x)$  (column 6, equations (3)-(4) of Knox). Since these two parameters  $(f, \frac{1}{1-f})$  are used to obtain the true images (column 6, lines 65-67 of Knox), then said parameters are used to convert each pixel.

**Regarding claim 20:** As discussed in the arguments regarding claim 12, which are incorporated herein, said determination unit further separates the character portions and the dot pattern portions from the background.

Knox discloses that said determination unit further separates the character portions and the dot pattern portions from the background and said correction unit corrects the intensity level in response to an image quality level of the front side image (column 7, lines 50-54 of Knox). If the imaging parameters are not good enough, an updated (trial-and-

Art Unit: 2624

error) value of "f" can be entered (column 7, lines 50-54 of Knox).

8. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Knox (US Patent 5,832,137) in view of *In re Larson* (340 F.2d 965, 968. 144 USPQ 347, 349 (CCPA 1965)), Clouthier (US Patent 5,949,964), Matsuda (US Patent 6,285,470 B1), and Carey (US Patent 5,977,978).

**Regarding claim 19:** As discussed in the arguments regarding claim 12, which are incorporated herein, said determination unit further separates the character portions and the dot pattern portions from the background.

Knox in view of *In re Larson*, Clouthier and Matsuda does not disclose expressly that said determination unit further separates the character portions and the dot pattern portions from the background and said correction unit corrects the intensity level in response to a selected one value from a set of predetermined levels based upon a user input.

Carey discloses correcting an intensity level in response to a selected one value from a set of predetermined levels based on user input (figure 11 and column 9, lines 19-25 of Carey). A slider (figure 11(119) of Carey) is used to determine the intensity level of a particular color based on user input (column 9, lines 19-25 of Carey). As is well-known in the art, a digital representation of intensity values necessarily requires a finite set of predetermined levels. For example, if there are 8 bits representing the intensity values for each color, then there are 256 predetermined levels from which an intensity value can be selected.

Art Unit: 2624

Knox in view of *In re Larson*, Clouthier and Matsuda is combinable with Carey because they are from the same field of endeavor, namely digital image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to correct a particular level from a set of predetermined levels based on the desire of a user, as taught by Carey. Adjusting a particular level would result in a change in how said determination unit further separates the character portions and the dot pattern portions from the background, since a change in a particular level adjusts the relationship of the image values to the background value (column 8, lines 48-51 of Matsuda). The motivation for doing so would have been that the user might wish to change the color of a particular object in an image (column 9, lines 19-21 of Carey). Therefore, it would have been obvious to combine Carey with Knox in view of *In re Larson*, Clouthier and Matsuda to obtain the invention as specified in claim 19.

***Allowable Subject Matter***

9. The following is a statement of reasons for the indication of allowable subject matter:

Examiner has been unable to find all of the limitations recited in claims 5 and 15. Specifically, Examiner has been unable to find the limitation "wherein said determination unit further separates the character portions and the dot pattern portions from the background and said correction unit corrects the intensity level *only when the following conditions are met*, the average intensity level being below a predetermined threshold value, the edge amount being relatively small, and the pitch frequency being present. [emphasis added]" This specific

Art Unit: 2624

combination of operations and conditions have not been found in the prior art.

Further, claims 6-8 contain allowable subject matter due to their dependence upon claim 5 and claims 16-18 contain allowable subject matter due to their dependence upon claim 15.

10. Claims 5-8 and 15-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A Thompson whose telephone number is 703-305-6329. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on 703-308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 09/847,192

Page 19

Art Unit: 2624

James A. Thompson

Examiner

Art Unit 2624

JAT

19 November 2004



THOMAS D.  
~~THOMAS~~ LEE  
PRIMARY EXAMINER